Financial globalization and stock market risk

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ABSTRACT

This paper examines stock market volatility measured by either “beta-volatility” or by the standard deviation of stock returns over 1995–2007. In our dynamic panel data framework, after controlling for size, turnover, and real output growth, we find some support to increases in financial integration reducing total stock return volatility for representative emerging markets, with almost no impact for industrial economies. Allowing for feedback effects from stock volatility to stock turnover, we obtain a richer interpretation for the broadening of investor basis hypothesis: more integrated financial markets leads to lower stock volatility, yet these are not so strong as found previously and are not accompanied by more turnover.

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1. Introduction

Bekaert and Harvey (1997) suggest that stock market volatility comes from a different process in emerging and developed countries. They find that capital market liberalizations often increase the correlation between local market returns and the world market but do not drive up local market volatility. If so, greater openness to world financial markets would increase the link between local markets and global markets, while the effects on stock volatility are potentially less clear.

Research on stock market volatility has taken different paths, understandably so because of the changes in the level of financial development across countries. In industrial countries, for example, Campbell et al. (2001) have formalized the idea that volatility of the aggregate stock market is not constant but changes over time. They decompose the return of a “typical” stock into three components:
the market wide-return, an industry-specific residual, and a firm-specific residual. They find that the volatility measures move together countercyclically and help to predict GDP growth in U.S. markets. Xu and Malkiel (2003) address the behavior of idiosyncratic volatility and find that the volatility of individual stocks appears to have increased over time. They suggest that this increase is associated with the degree to which their shares are owned by financial institutions. Further, they contend that the considerable attention in the financial press in stock market volatility of the late 1990s has been misplaced. Ferreira and Gama (2005) find— for developed stock markets— that in the 1990s there is a large increase in local industry volatility compared to market and country volatility.

In emerging equity markets, Bekaert and Harvey (2000) find that the cost of capital always decreases after capital market liberalizations. Kim and Singal (2000) study conditional volatility of equity markets in the context of financial liberalization as a one-time event for 14 emerging economies, finding that even though stock market returns increase, volatility tends to decrease during the post liberalization period. Along the same lines, Chiou (2008) explains that investors from less developed countries, particularly from East Asia and Latin America, benefit the most from financial liberalization as they are able to diversify and reduce volatility through risk-sharing. Chiou (2008) suggests that investors from liberalized emerging economies are able to improve risk-adjusted returns. Conversely, Iwata and Wu (2009) document increases in the volatility of emerging markets after financial liberalizations and argue that liberalized emerging countries become more vulnerable to economic shocks as such countries tend to receive high amounts of speculative capital. Wang (2007) documents a contemporaneous relationship between foreign equity trading and market volatility— measured as the log-difference between daily high and low of the market index—in Indonesia and Thailand. Wang and Moore (2009) investigate the emerging stock markets of the Czech Republic, Hungary, Poland, Slovakia and Slovenia over the period of 1994–2006. Their empirical results indicate that a sudden change in volatility seems to arise from the evolution of emerging stock markets in earlier periods. More recently, Umutlu et al. (2010) employ the decomposition of stock returns to a sample of 25 emerging markets from 1991 to 2005. They document a negative relationship between the degree of financial liberalization and aggregated stock-return volatility in emerging markets. In fact, controlling for stock turnover and size Umutlu et al. (2010) find relatively large coefficients of the estimated impact of each type of financial globalization on aggregate total stock volatility of emerging markets, varying from −0.151 under the binary coding system (based on restriction-based indices of capital controls) to −0.935 under foreign equity liabilities, and to a more intermediate −0.349 under Lane and Milesi-Ferretti (2007) measures of financial globalization.

Theoretical frameworks have explored the mechanisms through which financial openness affects economic output. Bartolini and Drazen (1997), for example, develop a model in which when there is uncertainty over government types a policy of liberal capital outflows sends a favorable signal that may trigger a capital inflow. Gourinchas and Jeanne (2006) show, however, that developing countries do not benefit greatly from international financial integration in a calibrated neoclassical growth model. They view the main role of financial integration as a way to accelerate the accumulation of physical capital. Since stock returns depend on expected future cash flows, financial integration is likely to have an impact on stock market, yet the impact on stock volatility depends on the broadening of investor basis: more integrated financial markets should lead to lower stock volatility.

We revisit the impact of financial globalization on stock market volatility on two grounds. First, we focus on both industrial and emerging market economies, which have different financial features at the micro and macro levels. As reviewed in Umutlu et al. (2010), a possible explanation for differences in equity volatility may be the change in market dynamics from a segmented market to a more integrated one, through, e.g., lower cost of capital. Henry (2000a) suggest that as equity markets become integrated to the world markets, investors are able to allocate their capital more efficiently, by sharing equity risk as international diversification can be more easily achieved. Another channel is the impact of more improved information flows on idiosyncratic volatility. Merton (1987) developed a model where firms with superior investor base have also better information environment, which is associated with equity risk as investors assign a higher market value to more open entities. Second, we address the endogeneity problem that potentially exists between stock market volatility and measures of turnover. Since Umutlu et al. (2010) employed static panel data methods, their methodological treatment cannot address endogenous links between volatility and market microstructure components, such as stock
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